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Supreme Court of the United States

AMGEN INC., *et al.*,

Cross-Petitioners,

v.

SANDOZ INC.,

Cross-Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR *AMICI CURIAE* 11 PROFESSORS IN SUPPORT OF AMGEN, INC., *ET AL.* AS CROSS-PETITIONERS

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INTEREST OF *AMICI CURIAE*[1]

The *amici curiae* comprise eleven professors who teach and write on patent law and policy, and the economics of the biopharmaceutical industry, and who are thus concerned with the integrity of the legal system that secures innovation to its creators and to the companies that commercialize it in the marketplace. Although the members of the *amici* may differ amongst themselves on other aspects of modern patent law and policy, they are united in their professional opinion that this court should reverse and remand the Court of Appeals for the Federal Circuit's decision in this case at least because the appellate court's contorted interpretation of the Biologics Price Competition and Innovation Act (BPCIA) threatens to undermine the statutory mechanism for timely and cost–efficient resolution of patent disputes between biologic drug innovators and manufacturers of biosimilar drugs. The names and affiliations of the members of the *amici* are set forth in Appendix A.

SUMMARY OF ARGUMENT

The United States has led the world for decades in the development of important new medicines for serious and life–threatening diseases. This innovation is made possible by robust patent protection. The pathway to approval of a new biologic drug is lengthy, costly, and

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1. Pursuant to Supreme Court Rule 37.6, *amici curiae* state that no counsel for any party authored this brief in whole or in part, and that no person or entity other than *amici curiae* or their counsel made a monetary contribution to the preparation or submission of this brief. Counsel of Record for both Cross–Petitioners and Cross–Respondent consented in writing to the filing of this brief.

risky. Once a biologic drug has been introduced to the market, however, a competitor can develop a biosimilar at a fraction of the innovator's time and cost. Meaningful patent protection ensures that the innovator can recover its investment in the biopharmaceutical research and development that made the new medicine possible. Because it is impossible to recover market power after launch of an infringing product (even if that product is removed from the market), only a scheme that permits patent enforcement prior to biosimilar market launch will provide adequate protection of innovator patents. The Federal Circuit's interpretation of the patent information exchange provisions of the BPCIA will undermine the essential role of patents in stimulating investment in this important research. If biosimilar applicants may elect not to participate in the premarket patent information exchange, biologic drug innovators will be frustrated in their efforts to assert their patent rights.

Immediately after enactment of the BPCIA, one author of this brief published extensive research demonstrating that the process culminating in its enactment afforded biosimilar manufacturers many opportunities over many years to address the scope, contours, and design of the patent information exchange and litigation provisions. Cross–Respondent Sandoz was offered, and seized upon, many opportunities to state its contrarian case during the legislative process. After years of deliberation and careful consideration of stakeholder comments, Congress disagreed with Sandoz, enacting a biosimilar pathway that, from its outset, required mutual information exchange between parties. Indeed, Sandoz immediately denounced the enacted legislation because the information exchange was mandatory. Thus Sandoz is attempting to

litigate an issue that was expressly and unambiguously settled by Congress. The proper remedy for Sandoz is a legislative amendment, not a judicial reworking of a settled policy matter. For these reasons, *amici* submit that this Court should reverse and remand the decision of the Federal Circuit.

ARGUMENT

I. MEANINGFUL PATENT PROTECTION FOR BIOLOGIC DRUGS IS ESSENTIAL TO ENSURE THAT THE UNITED STATES RETAINS ITS PLACE AT THE FOREFRONT OF INNOVATION IN MEDICINE

A. For decades the United States has led the world in developing important new medicines for serious and life–threatening diseases

Innovation in medicine over the last century is responsible for profound improvements in public health, both domestically and globally. Vaccines led to the eradication of smallpox worldwide and virtual elimination of polio. More than 20 medicines are now available to treat HIV, though it was almost universally a death sentence less than a generation ago. Today many cancers can be effectively cured, including *for example* testicular cancer, childhood leukemia, and non–Hodgkin's lymphoma. The biotechnology revolution of the 1970s and 1980s fundamentally transformed treatment of many serious and life–threatening diseases and conditions, including type 1 diabetes, Crohn's disease, rheumatoid arthritis, and multiple sclerosis. The social value of the increased life expectancy achieved from 1970 to 1998 — much of it attributable to medical advances like these — has been

measured at around $73 trillion dollars, roughly $2.6 trillion per year.[2]

The United States has been the world leader in the scientific and medical innovation that has produced these breakthroughs. Most of the world's top biopharmaceutical companies are based in the United States.[3] U.S. companies are "testing more potential medicines in clinical trials than all other companies from the rest of the world combined."[4] Indeed, the U.S. biopharmaceutical industry accounted for over 5,000 of the approximately 7,000 medicines in development globally in 2015.[5] U.S. companies are also the primary source of biotechnology-derived products, "originating more than half of all worldwide biopharmaceutical introductions from 1982 to 2003."[6] The

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2. Kevin M. Murphy & Robert H. Topel, *Diminishing Returns?: The Costs and Benefits of Improving Health*, 46 PERSP. BIOL. & MED. S108, S118 (2003). The U.S. GDP over the same period averaged $5.8 trillion per year. *Id.*

3. William Looney, *Pharm Exec's Top 50 Companies 2016*, 36(PHARMACEUTICAL EXECUTIVE (2016), *available at* http://www.pharmexec.com/2016-pharm-exec-50 (showing that 8 of the top 15 ranked companies by prescription drug sales in 2015 are headquartered in the United States).

4. Robert D. Atkinson, *The U.S. Has Been the World's Medicine Cabinet for Too Long*, FORBES (Feb. 23, 2016, 8:30 AM), https://www.forbes.com/sites/realspin/2016/02/23/the-u-s-has-been-the-worlds-medicine-cabinet-for-too-long/#5e0c1a903719.

5. Kristina M. Lybecker, *Intellectual Property Protection for Biologics: Why the Trans-Pacific Partnership (TPP) Trade Agreement Fails to Deliver*, 22 J. COMMERC. BIOTECH. 42, 42 (2016).

6. Henry Grabowski, *Follow-On Biologics: Data Exclusivity and the Balance Between Innovation and Competition*, 7 NATURE REV. DRUG DISCOVERY 479, 483 (2008).

U.S. also accounts for more than 40 percent of the world's patents in biotechnology.[7]

Innovation by the U.S. biopharmaceutical industry not only profoundly transforms public health, it also stimulates the U.S. economy. Biopharmaceutical exports have been steadily growing, reaching $ 47 billion in 2015, nearly triple the amount in 2003.[8] The biopharmaceutical industry itself employs around 854,000 workers in the United States.[9] A broader group of bioscience companies – which includes not only biopharmaceutical research and development firms, but also the research, testing, and medical laboratories and the bioscience finance and insurance firms that flourish with a vibrant innovating industry – employed more than 1.6 million workers in 2012, representing an increase of 7.4% in a ten–year span.[10] Moreover, each position at a biopharmaceutical research company supports more than four additional jobs across the economy (ranging from construction to childcare

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7. Organisation for Economic Cooperation and Development (OECD), COMPENDIUM OF PATENT STATISTICS 18–19 (2008), *available at* www.oecd.org/dataoecd/5/19/37569377.pdf (stating that "[i]n 2005, the United States contributed to 40.6% of all biotechnology patents" and included 7 of the top 10 regions, globally, in biotechnology patenting).

8. PhRMA, 2016 BIOPHARMACEUTICAL RESEARCH INDUSTRY PROFILE 34 (2016), *available at* http://phrma-docs.phrma.org/sites/default/files/pdf/biopharmaceutical-industry-profile.pdf.

9. *Id.* at 33.

10. BIOTECHNOLOGY INDUSTRY ORGANIZATION (BIO), BIOSCIENCE ECONOMIC DEVELOPMENT IN THE STATES: LEGISLATION AND JOB CREATION BEST PRACTICES 6 (2015), *available at* https://www.bio.org/sites/default/files/files/Bioscience%20Economic%20Development%20Report_Final_6-5-15.pdf.

providers), which means that the industry supports more than 4.4 million U.S. jobs.[11]

We have profound public health, social welfare, and economic reasons to ensure that the United States remains a world leader in biopharmaceutical research and development. The questions now before this Court provide an opportunity to ensure continued investment in this sector of the economy and, through this investment, continued biopharmaceutical innovation.

B. The pathway to approval for a new biologic drug is lengthy, costly, and risky

Developing a new biologic drug today takes ten to twelve years on average, costs more than $2.5 billion, and is successful less than ten percent of the time.

To begin with, constructing and validating a commercial-scale biologic drug manufacturing facility can be time-consuming and expensive. Simply building a facility capable of the sophisticated manufacturing process required for biologic drugs can cost an estimated $200 million to $400 million and can take four years.[12] Unlike conventional small molecule drugs regulated under new drug applications, biologic drugs are generally manufactured in living systems.[13] The cells that make the active ingredient of biologic drugs are typically grown

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11. PhRMA, 2016 BIOPHARMACEUTICAL RESEARCH INDUSTRY PROFILE, *supra* note 8 at 33.

12. JOHN R. THOMAS, CONG. RESEARCH SERV., R41483, FOLLOW-ON BIOLOGICS: THE LAW AND INTELLECTUAL PROPERTY ISSUES 15 (2014).

13. 42 U.S.C. § 262(i) (2012) (defining biological products).

in massive stainless steel bioreactor vessels.[14] Feeding the cells and extracting the therapeutic protein typically requires many challenging cell culture and purification steps.[15] The production environment must be tightly controlled, from the water used to wash the tanks to the air circulating in the facility.[16] Development and validation of the manufacturing process for a new biological medicine is also, separately, time consuming and expensive.[17] The active ingredients of biologic drugs are large, complex, and hard to characterize in the laboratory.[18] Their mechanisms

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14. *See generally* FDA, BIOTECHNOLOGY INSPECTION GUIDE (Nov. 1991), https://www.fda.gov/ICECI/Inspections/InspectionGuides/ucm074181.htm (last updated Nov. 25, 2014) [hereinafter Biotechnology Inspection Guide]; MANUFACTURING PROCESS OF BIOLOGICS, INTERNATIONAL CONFERENCE ON HARMONISATION OF TECHNICAL REQUIREMENTS FOR REGISTRATION OF PHARMACEUTICALS FOR HUMAN USE 6 (2011) [hereinafter MANUFACTURING PROCESS OF BIOLOGICS], *available at* http://www.ema.europa.eu/docs/en_GB/document_library/Presentation/2011/06/WC500107832.pdfInternational Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (2011).

15. *See* Biotechnology Inspection GuideInternational Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (2011, *supra* note 14; MANUFACTURING PROCESS OF BIOLOGICS, *supra* note 14.

16. *See* Biotechnology Inspection GuideInternational Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (2011, *supra* note 14; MANUFACTURING PROCESS OF BIOLOGICS, *supra* note 14.

17. Thomas, *supra* note 12, at 15.

18. *See generally* Janet Woodcock *et al.*, *The FDA's Assessment of Follow-On Protein Products: A Historical Perspective*, 6 NATURE REV. DRUG DISCOVERY 437 (2007).

of action, and the relationship between their structural attributes and clinical functions, may not be well understood.[19] Biologic drug substances — the bulk drugs that are processed into final formulations and delivered to healthcare providers — are often heterogeneous. This can make it hard to establish and validate a manufacturing process that will consistently develop a quality product.[20]

Biologic drug development is also risky, expensive, and time–consuming because biologic drugs present a risk of immunogenicity that ordinary chemically synthesized drugs do not generally present. A biologic drug is a large protein foreign to the patient to whom it is administered, which presents a serious risk of triggering an immune response in the body.[21] The immunogenicity of a biologic drug can render that medicine ineffective or dangerous, and the consequences can be life–threatening.[22] Slight changes to the raw materials or manufacturing processes used to make a biologic drug can have profound clinical consequences.[23] For example, in the 1990s Johnson & Johnson replaced a single inactive ingredient in the vial

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19. *Id.*

20. *See generally* FDA, GUIDANCE FOR INDUSTRY, PROCESS VALIDATION: GENERAL PRINCIPLES AND PRACTICES (2011), *available at* https://www.fda.gov/downloads/drugs/guidances/ucm070336.pdf.

21. FDA, GUIDANCE FOR INDUSTRY, IMMUNOGENICITY ASSESSMENT FOR THERAPEUTIC PROTEIN PRODUCTS 2 (2014), *available at* https://www.fda.gov/downloads/drugs/guidances/ucm338856.pdf.

22. *Id.* at 3-6.

23. Kristina M. Lybecker, *When Patents Aren't Enough: Why Biologics Necessitate Data Exclusivity Protection*, 40 WM. MITCHELL L. REV. 1427, 1433 (2014).

presentation of its medicine, Eprex® (epoetin alfa) with an inactive ingredient used in the prefilled syringes of the same medicine. It began to receive more reports of pure red cell aplasia, a serious condition in which the body stops making red blood cells, from patients taking the medicine for treatment of anemia associated with chronic renal failure. The company ultimately attributed these life-threatening immunogenic reactions to the combination of the inactive ingredient substitution and the particular rubber stopper used in the vials.[24] The sensitivity of biologic drugs to slight changes in the manufacturing process complicates premarket research and development. Manufacturing processes typically evolve over the course of a clinical development program. These changes can affect the product's safety and effectiveness, and with biologic drugs it is often impossible to predict the effect the change will have on the product. Every adjustment over the course of the development program must be considered carefully, usually requiring extensive testing.[25]

Preclinical and clinical testing of biologic drugs is also time consuming and expensive. The FDA requires proof of safety and effectiveness, which must be gathered in a gradual process that begins with laboratory and animal

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24. Katia Boven *et al.*, *Epoetin-Associated Pure Red Cell Aplasia in Patients with Chronic Kidney Disease: Solving The Mystery*, 20 NEPHROL. DIAL. TRANSPLANT iii33, iii34 (2005).

25. FDA, GUIDANCE FOR INDUSTRY, DEMONSTRATION OF COMPARABILITY OF HUMAN BIOLOGICAL PRODUCTS, INCLUDING THERAPEUTIC BIOTECHNOLOGY-DERIVED PRODUCTS (1996) [hereinafter COMPARABILITY OF HUMAN BIOLOGICAL PRODUCTS], https://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/ucm122879.htm (last updated July 6, 2005).

testing and proceeds to clinical trials only if the preclinical work indicates it is safe to test in humans.[26] Several phases of human trials typically culminate in large randomized controlled clinical trials designed to test safety and effectiveness in patients.[27] For biopharmaceuticals that entered clinical trials between 1990 and 2003, the average length of the total process was 149.7 months (12.5 years), and the average length of clinical testing plus FDA approval was 97.7 months (8.1 years).[28] More recent research examining biopharmaceuticals first tested in humans from 1995 to 2007 found an average clinical trial duration of 116 months (9.7 years).[29] Because many biologic drugs are intended to treat serious conditions or life–threatening diseases, trials to establish effectiveness of these medicines can take longer than average. Biologic drugs intended for rare diseases face the additional hurdle of recruiting enough patient volunteers, which can lengthen the timeline.[30] Moreover, in some therapeutic

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26. 42 U.S.C. § 262 (a)(2)(C) (2012) (licensure standard for biologics); Investigational New Drug Application, 21 C.F.R. § 312.22 (2016) (showing required to start clinical trials).

27. 21 C.F.R. § 312.21 (2016) (phases of an investigation).

28. Joseph A. DiMasi and Henry G. Grabowski, *The Cost of Biopharmaceutical R&D: Is Biotech Different?*, 28 MANAGERIAL & DECISION ECON. 469, 475 (2007).

29. Joseph A. DiMasi *et al.*, *Innovation in the Pharmaceutical Industry: New Estimates of R&D Costs*, 47 J. HEALTH ECON. 20 (2016).

30. *See, e.g.*, Meng Tan *et al.*, *Using Registries to Recruit Subjects for Clinical Trials*, 41 CONTEMP. CLIN. TRIALS 31, 36 (2015); INSTITUTE OF MEDICINE, TRANSFORMING CLINICAL RESEARCH IN THE UNITED STATES: CHALLENGES AND OPPORTUNITIES 35–36 (National Academies Press 2010) ("When patient recruitment is impeded, the

areas for which biologic drugs offer significant potential, clinical trials are increasing in duration. For instance, one recent study reported that the median oncology clinical trial duration increased on average 16 months from 2002 to 2014, an increase of 69 percent.[31]

The clinical trial process has a high risk of failure. Laboratory and animal data may not accurately predict human response, and a biologic drug may fail when the company starts testing in humans — either because it does not work, or because the overall risk–benefit profile is not favorable in humans.[32] Adjustments to the formulation, dose, and manufacturing process may be necessary to ensure a safe and effective medicine, further protracting the drug development timeline.[33] Ultimately the attrition rate for new medicines is extremely high.[34] The FDA

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trial is delayed, sometimes by years, until the number of patients required by the study protocol can be enrolled.").

31. Moe Alsumidaie & Peter Schiemann, *Why Are Cancer Clinical Trials Increasing in Duration?* Applied Clinical Trials, Aug. 31, 2015, *available at* http://www.appliedclinicaltrialsonline.com/why-are-cancer-clinical-trials-increasing-duration (last accessed March 1, 2017).

32. François Curtin & Pierre Schulz, *Assessing the Benefit: Risk Ratio of a Drug – Randomized and Naturalistic Evidence*, 13 Dialogues in Clinical Neuroscience 183, 184 (2011).

33. Comparability of Human Biological Products, *supra* note 25 (describing testing that must accompany manufacturing changes made prior to approval and recommending consultation with agency to avoid delay).

34. U.S. Gov't Accountability Office, GAO-07-49, New Drug Development: Science, Business, Regulatory, and Intellectual Property Issues Cited as Hampering Drug Development Efforts

approves fewer than ten percent of drugs that enter clinical trials.[35] The risk of failure is even higher in some therapeutic areas commonly treated by biologic drugs. For instance, the probability of a cancer drug development program succeeding even after promising preliminary animal studies is roughly 1 in 20.[36] Drugs directed towards disorders of the central nervous system (CNS) have a success rate lower than all drugs in development – a dismal 6.2 percent of the CNS drugs that entered human trials between 1995 and 2007 were approved.[37] The numbers for Alzheimer's disease are particularly grim. Although 244 drugs directed to Alzheimer's disease (including 76 biologics) were tested from 2002–2012, only one was

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25 (2006) (noting that "clinical trial failure rates [increased] from 82 percent during the period 1996 through 1999, to 91 percent during the period 2000 through 2003"); Ismail Kola & John Landis, *Can The Pharmaceutical Industry Reduce Attrition Rates?*, 3 NATURE REV. DRUG DISCOVERY 711 (2004) (noting that success rate in phase 3 dropped from 80 percent in 1995 to 50 percent in 2005).

35. BIOTECHNOLOGY INNOVATION ORGANIZATION (BIO), CLINICAL DEVELOPMENT SUCCESS RATES 2006–2015 7 (2016) [hereinafter BIO, CLINICAL DEVELOPMENT SUCCESS RATES], *available at* https://www.bio.org/sites/default/files/Clinical%20Development%20Success%20Rates%202006-2015%20-%20BIO,%20Biomedtracker,%20Amplion%202016.pdf (reporting a 63.2 percent chance of progressing to phase 2 and a 30.7 percent chance of progressing to phase 3); *see also* DiMasi, *supra* note 29, at 24 (using a different data set, reporting a 59.5 percent chance of progressing to phase 2 and a 21.1 percent chance of progressing to phase 3).

36. BIO, CLINICAL DEVELOPMENT SUCCESS RATES, *supra* note 35, at 13.

37. TUFTS CENTER FOR THE STUDY OF DRUG DEVELOPMENT, TUFTS UNIVERSITY, IMPACT REPORT, 16/6, 1 (2014).

approved.[38] Several promising biologic drugs to combat Alzheimer's disease failed in the most costly stage of clinical testing, phase 3 trials.[39]

The high attrition rate, which includes not only these phase 3 failures but a high number of phase 2 washouts, force biopharmaceutical firms to recoup their investment in innovative activity from the sales of any successful biologic drugs in their pipeline. Reducing the likelihood of a positive return on this overall investment from the few biologic drugs that succeed, or creating substantial uncertainty about the ability to realize return on investment, will discourage firms from pursuing biopharmaceuticals in the first instance. This could in turn cost the United States its position as the world leader in medical innovation.

C. Biologic drug innovation depends on patent protection

Decades of empirical research confirm that the success of the biopharmaceutical sector depends on the availability of meaningful patent protection.[40] The

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38. Jeffrey L. Cummings *et al.*, *Alzheimer's Disease Drug–Development Pipeline: Few Candidates, Frequent Failures*, 6 ALZHEIMER'S RESEARCH & THERAPY 37, 41 (2014).

39. *See e.g.*, Rik Vandenberghe *et al.*, *Bapineuzumab For Mild to Moderate Alzheimer's Disease in Two Global, Randomized, Phase 3 Trials*, 8 ALZHEIMER'S RESEARCH & THERAPY 18 (2016).

40. *See e.g.*, Edwin Mansfield, *Patents and Innovation: An Empirical Study*, 32 MGMT. SCI. 173, 174–75 (1986) (reporting finding that 65 percent of new pharmaceuticals would not have been introduced absent patent protection); James Bessen & Michael J.

patent system encourages firms to make socially valuable investments in research and development that they would not otherwise make. It promotes investment in innovation, through the protection of property rights in inventions. These property rights, though limited in duration, allow innovators to recoup and profit from their investments in innovative activity.

As explained in Section IB above, biologic drugs require a significant and risky investment in premarket research before commercialization. With the enactment of the BPCIA, Congress has permitted FDA to approve biosimilar drugs twelve years after innovator product approval.[41] At the end of this regulatory exclusivity period, however, the average biologic drug will not have recouped the investment required to bring it to market. Studies indicate that biotechnology companies typically recover their investments between 12.9 and 16.2 years

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Meurer, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK (2008) (noting the extreme reliance on patent incentives for pharmaceutical sector compared to other technological sectors); Adam B. Jaffe & Josh Lerner, INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT (Princeton Univ. Press 2007) (noting that patent provide incentives for costly drug development which otherwise not occur); J. John Wu & Stephen J. Ezell, *How National Policies Impact Global Biopharma Innovation: A Worldwide Ranking*, INFORMATION TECHNOLOGY & INNOVATION FOUNDATION 5 (2016), *available at* https://itif.org/publications/2016/04/07/how-national-policies-impact-global-biopharma-innovation-worldwide-ranking (showing correlation between effective intellectual property protection policies and life science innovation).

41. 42 U.S.C. § 262 (k)(7) (2012).

after approval.[42] Moreover, biosimilar drugs can now reach the market more quickly and on the basis of a smaller investment. This allows biosimilar firms to provide their competing products at lower cost.[43] Further, if FDA deems a biosimilar drug interchangeable with the innovator's product, state laws may shift consumers automatically to the innovator's competition.[44] Without some way to delay the market entry of these competing products, innovator companies will be unable to recoup their investments and will presumably shift their focus from biologic drugs to other opportunities with higher likelihoods of rational returns on investment.

Biologic drugs account for over one–third of the medicines in clinical trials or awaiting FDA approval.[45] Today the industry is tackling a variety of complex diseases and conditions that desperately need improved treatments, including metastatic renal cancer, pancreatic

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42. Henry Grabowski, *Follow–on Biologics: Data Exclusivity and the Balance between Innovation and Competition*, 7 NATURE REV. DRUG DISCOVERY 479 (2008); *see generally* Erika Lietzan, *The Myths of Data Exclusivity*, 20 LEWIS & CLARK L. REV. 91, 156–160 (2016).

43. Lietzan, *supra* note 42, at 108–109.

44. *See* 42 U.S.C. § 262 (k)(4), § 262(i); RICHARD CAUCHI, STATE LAWS AND LEGISLATION RELATED TO BIOLOGICAL MEDICATIONS AND SUBSTITUTION OF BIOSIMILARS, NATIONAL CONFERENCE OF STATE LEGISLATURES (2016), *available at* http://www.ncsl.org/documents/health/Biologics_BiosimilarsNCSLReport2015.pdf.

45. INT'L TRADE ADMIN., U.S. DEPARTMENT OF COMMERCE, 2016 PHARMACEUTICALS TOP MARKETS REPORT 4 (2016), *available at* http://trade.gov/topmarkets/pdf/Pharmaceuticals_Executive_Summary.pdf.

cancer, glioblastoma, *C. difficile* infections, spinal cord injuries, amyotrophic lateral sclerosis (ALS), soft tissue sarcoma, Merkel cell carcinoma, systemic sclerosis, and multiple myeloma.[46] Meaningful patent protection remaining after FDA approval ensures that investors will tackle such complex and risky projects.[47] With several biosimilar drugs approved today, and more than five dozen biosimilars in development,[48] U.S. biopharmaceutical firms need to know that their patent rights will be enforceable and that a meaningful return on investment will be possible.

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46. PhRMA, 2016 MEDICINES IN DEVELOPMENT FOR RARE DISEASES (2016), *available at* http://phrma-docs.phrma.org/sites/default/files/pdf/medicines-in-development-drug-list-rare-diseases.pdf.

47. *See* Lybecker, *supra* note 23, at 1430.

48. Michael Mezher, *FDA Officials Share Best Practices for Biosimilar Development*, REGULATORY AFFAIRS PROFESSIONALS SOCIETY (Oct. 28, 2016) http://www.raps.org/Regulatory-Focus/News/2016/10/28/26093/FDA-Officials-Share-Best-Practices-for-Biosimilar-Development/ (noting that 66 biosimilars were in development at the end of October 2016).

II. THE MANDATORY INFORMATION EXCHANGE PROCESS IN SECTION 351(l) OF THE PUBLIC HEALTH SERVICE ACT (PHSA) ENSURES THAT INNOVATORS HAVE A MEANINGFUL OPPORTUNITY TO ENFORCE THEIR PATENT RIGHTS

A. Like the Hatch–Waxman Act, the BPCIA made changes to the drug approval and patent statutes to ensure that patent owners could enforce their patents without suffering permanent loss due to infringing market launch

Resolving patent infringement issues prior to market entry of generic and biosimilar drugs pursuant to the procedures of the Hatch–Waxman Act and the BPCIA, respectively, ensures that innovators benefit from meaningful enforcement of their patent property rights. Generic and biosimilar applicants enjoy the ability to freeride on an innovator's preclinical and clinical research. Their research and development costs are significantly lower than an innovator's, and they offer aggressive price competition. As a result, generic drugs immediately capture most of the marketplace.[49] Like generic drugs, biosimilar drugs will be able to compete on the basis of price using the economic advantages derived from copying rather than innovating.

A biopharmaceutical innovator never fully recovers its market power after a generic company launches

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49. Henry Grabowski *et al.*, *Recent Trends in Brand–Name and Generic Drug Competition*, 17 J. OF MED. ECON. 1, 6–7 (2013).

its infringing product. even if the infringing product is later removed from the market.[50] Damages for past infringement by a generic drug company do not make the innovator whole. Put another way, when a generic company launches an infringing product, the innovator's ability to recover its high–risk investment in the research and development that led to the new medicine in question is permanently compromised. The Hatch–Waxman Act thus links generic drug approval to the resolution of any patent infringement issues presented by the generic drug.[51] This ensures that an innovator has a meaningful opportunity to enforce its patents against an infringing generic drug *before* that drug enters the marketplace and permanently reduces the innovator's return on investment. Premarket

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50. *See, e.g.* David Manspeizer, *The Law on Damages in Generic Drug Launches Remains Vague*, NEW YORK L. J., Jan. 6, 2014, at 11 (describing the potential losses the patentee may experience even after an infringing generic product is removed from the market place, including the inability to recover prior sales levels, pricing levels, and market share); *see also Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1382 (Fed. Cir. 2006) (affirming preliminary injunctive relief that was based in part on finding that innovator "would suffer irreversible price erosion in light of a complex pricing scheme that is directly affected by the presence of the generic drug in the market"); *Purdue Pharma L.P. v. Boehringer Ingelheim GMBH*, 237 F.3d 1359, 1368 (Fed. Cir. 2001) (affirming lower court's finding of irreparable harm on the basis of testimony of economics expert that launch of infringing product would result in price erosion and loss of market position).

51. It accomplishes this linkage by requiring innovators to identify the relevant patents, requiring a generic drug company to determine whether it wishes to contest infringement (or validity) or defer launch until patent expiry, staying approval of the generic drug if the generic drug company chooses to contest a patent and the innovator chooses to enforce the patent, and prohibiting FDA approval of the generic drug until patent expiry if that drug infringes a patent. *See generally* 21 U.S.C. § 355 (j)(5) (2012).

patent litigation for biologic drug innovators — made possible by the BPCIA's amendments to § 351(l) of the PHSA and § 271 of the Patent Act — accomplishes the same objective.

Premarket resolution of patent infringement disputes has long been understood to also benefit generic applicants, by allowing them to enter the marketplace without incurring any risk of patent infringement damages. The Hatch–Waxman Act included a new and "highly artificial" act of infringement in § 271 (e)(2) of the Patent Act for the specific purpose of making it possible for a court to entertain a patent infringement action prior to generic drug market entry.[52] Similarly, the BPCIA amended § 271(e)(2) to add a corresponding artificial act of infringement tied to submission of biosimilar applications.[53] The Patent Act further provides that damages may be awarded against the infringer only in the event of commercial manufacture, use, or sale.[54] The artificial acts of infringement added to the Patent Act ensure that generic and biosimilar applicants can resolve questions of infringement and patent validity before being exposed to infringement liability damages, while at the same time providing the innovator a meaningful opportunity to enforce its patent rights before being exposed to the irreparable harm of an infringing market launch.[55]

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52. *See Eli Lilly & Co. v. Medtronic, Inc.*, 496 U.S. 661, 676–679 (1990); *see also* 35 U.S.C. § 271 (e)(2)(A) (2012).

53. 35 U.S.C. § 271 (e)(2)(C).

54. *Id.* § 271, 496 U.S. at 678.

55. The new *inter partes* review (IPR) procedures permit a premarket administrative challenge to biologics patents at the U.S. Patent and Trademark Office on terms that are considerably more

B. The premarket patent procedures in the PHSA depend on a single act that must be taken by the biosimilar applicant

Premarket patent litigation regarding biosimilar copies of biologic drugs begins with a premarket information exchange process that depends on the biosimilar applicant providing information to the innovator. This process is triggered when FDA notifies the biosimilar applicant that its application has been accepted for review.[56] At this point, the biosimilar applicant "shall" provide a copy of its application to the biologic drug innovator, referred to in the PHSA as the "reference product sponsor," along with information describing its manufacturing process.[57] Every subsequent step in the process that culminates in the innovator bringing its patent infringement case, as laid out in §§ 351(l)(3) through 351(l)(6) of the PHSA, is measured from the moment the biosimilar applicant provides its application to the innovator.[58]

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favorable for generic and biosimilar companies than conventional federal court litigation. The availability of IPR may have made the premarket litigation schemes written into the drug approval statutes less appealing to these firms. *See* Joanna Shepherd, *Disrupting The Balance: The Conflict Between Hatch–Waxman and Inter Partes Review*, 6 NYU J. INTELL. PROP. & ENT. L. 14, 41 (2016) ("Although IPR challenges to pharmaceutical patents do not yet occur in large numbers, their popularity is increasing swiftly.").

56. PHSA § 351(l)(2), codified at 42 U.S.C. § 262 (l)(2) (2012).

57. 42 U.S.C. § 262 (l)(2)(A).

58. *Id.* §§ 262 (l)(3)–(6).

- The biologic drug innovator must comply with paragraph (3)(A) within 60 days of that point;

- The biosimilar applicant must comply with paragraph (3)(B) within another 60 days of that point;

- The biologic drug innovator must comply with paragraph (3)(C) within another 60 days of that point;

- The parties must negotiate a narrow list of patents for immediate patent litigation, in accordance with paragraph (4), for another 15 days from that point;

- If the parties fail to reach an agreement within 15 days, the biosimilar applicant must comply with paragraph (5)(A), and the parties must comply with paragraph (5)(B) within another 5 days;

- And then, within another 30 days, the biologic drug innovator must bring patent infringement litigation under paragraph (6).[59]

Consequently if the biosimilar applicant does not perform the initial, pivotal step in paragraph (2)(A) — providing a copy of its application and manufacturing information to the biologic drug innovator — the deadlines in these provisions are meaningless and the entire process fails *ab initio.*

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59. *Id.* §§ 262 (l)(3)–(6).

Moreover, every substantive obligation in the process set forth in § 351(l) is made possible only because the biosimilar applicant has performed this initial step.

- The application and manufacturing information form the basis of the biologic drug innovator's list of patents — provided under paragraph (3)(A) — that could reasonably be asserted in litigation or potentially licensed.

- The application and manufacturing information form the basis of the biologic drug innovator's claim-by-claim statement — provided under paragraph (3)(C) — of the factual and legal basis for its opinion that each patent will be infringed by the commercial marketing of the biosimilar.

- The application and manufacturing information, and resulting patent list and infringement opinions, necessarily inform the biologic drug innovator's position in the negotiations under paragraph (4) regarding which patents it wishes to litigate immediately.

- The application and manufacturing information form the basis for the complaint in the patent infringement litigation brought under paragraph (6).[60]

If the biosimilar applicant does not perform the initial, pivotal step in paragraph (2)(A), none of these subsequent obligations can be met and the benefits to both parties of the premarket patent procedures laid out in the BPCIA are lost.

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60. *Id.* §§ 262 (l)(3)–(4), (6).

C. Rejecting the systematic process created by Congress in favor of *ad hoc* and poorly informed declaratory judgment actions would be contrary to the public interest

In addition to ensuring meaningful protection of the biologic drug innovator's patents and providing pre–liability resolution of patent infringement questions for biosimilar applicants, the pre–litigation information exchange process in § 351(l) furthers the goals of litigation efficiency and conservation of judicial resources. The joint construction of a master list of potentially implicated patents and the winnowing of patents for litigation under paragraphs (3)–(5) of § 351(l) permit immediate and more accurate identification of patents to be enforced. This process can eliminate time–consuming discovery procedures and at least some discovery disputes, making the actual patent litigation under the Patent Act more efficient. It also narrows the scope of the litigation, which conserves both private and judicial resources.

The BPCIA scheme would be thwarted if the information exchange step in paragraph (2)(A) were optional. If a biosimilar applicant elected to ignore paragraph (2)(A), the biologic drug innovator might not learn of the pending biosimilar application.[61] Even if, as here, the innovator knew of the application, it might know nothing more than the fact that FDA had accepted the application for review. The biologic drug innovator's

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61. FDA regulations have long precluded the agency from disclosing the fact of one pending application unless it has previously been publicly disclosed or acknowledged. 21 C.F.R. §§ 601.51 (b), 314.430 (b).

only option — prior to launch of the potentially infringing product, which would create a federal cause of action under 35 U.S.C. § 271 (a) — would be to seek a declaratory judgment of infringement invoking § 271(e)(2)(C)(ii). Under these circumstances the biologic drug innovator would frequently have little or no information on which to base its identification of the patents that the biosimilar applicant might be infringing. This would result in a system of *ad hoc* and poorly informed (or even totally uninformed) declaratory judgment actions, supplemented by equally uninformed attempts to obtain preliminary injunctions in the final months before potential biosimilar launches.

D. Section 271(e)(2)(C)(ii) of the Patent Act protects biologic drug innovators in the event biosimilar applicants fail to comply with the statute, but it does not excuse compliance with § 351(l) of the PHSA

The Federal Circuit fundamentally misunderstood the role of § 271 (e)(2)(C)(ii) when it reasoned that biosimilar applicants need not comply with the initial step of the premarket information exchange.[62] The special act of infringement in clause (ii) reflects a fundamental difference between the Hatch–Waxman Act and the BPCIA.

As this Court explained nearly thirty years ago, the artificial act of infringement in § 271(e)(2)(C) was made necessary because Congress had also in the same legislation enacted a provision, § 271(e)(1), exempting the

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62. *Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1355–57 (Fed. Cir. 2015).

manufacture or use of a patented invention from patent infringement if these acts were done for the purpose of obtaining FDA approval.[63] This provision overruled in part a ruling of the Federal Circuit and affirmatively "disabled" patent owners from establishing acts of infringement against competitors prior to market entry.[64] As a result of the *Bolar* provision, "an act of infringement had to be created," or the premarket patent litigation provisions of the Act would not function.[65]

At the same time, the Hatch–Waxman Act gave FDA a role in ensuring that generic applicants complied with the statutory requirement to address the patents claiming the reference drug. Compliance is achieved by requiring the innovator to provide a list of the relevant patents to the agency, which the agency then publishes in the "Orange Book," and by requiring the generic applicant to provide its views on those patents *to the agency*.[66] Further, if the

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63. *Eli Lilly*, 496 U.S. at 678 (citing 35 U.S.C. § 271(e)(1), which provides that it is not an act of infringement to make or use a patented invention solely for reasons reasonably related to the development and submission of a marketing application).

64. *Eli Lilly*, 496 U.S. at 678; 35 U.S.C. § 271(e)(1) is referred to as the "Bolar" provision after the Federal Circuit decision in question. *Roche Products, Inc. v. Bolar Pharm. Co.*, 733 F.2d 858 (Fed. Cir. 1984).

65. *Eli Lilly*, 496 U.S. at 678.

66. 21 U.S.C. § 355 (b)(1) (2012) (requiring the innovator to provide patent information as part of its new drug application); § 355 (j)(2)(A)(vii) (requiring generic applicants to address patents claiming the reference drug or a method of using the reference drug). FDA, APPROVED DRUG PRODUCTS WITH THERAPEUTIC EQUIVALENCE EVALUATIONS (37th ed. 2017) ("Orange Book"), *available at* https://

generic applicant intends to launch prior to expiration of the innovator's patents, it must affirmatively state to FDA that it will notify the patent owner of its intention.[67] The agency polices compliance and will not accept generic applications that fail to address patents listed by the innovator in the Orange Book.[68]

FDA does not play this role under the BPCIA. The agency does not have a list of relevant biologic drug patents. The biosimilar applicant does not include patent information in its application. Nor does the biosimilar applicant indicate to FDA whether it intends to launch prior to expiry of any patents. The agency does not police compliance. FDA has no way of knowing whether the biosimilar applicant provided its application and manufacturing information to the biologic drug innovator or complied with any other requirement of § 351(l).

If a biosimilar applicant complies with the information exchange process mandated by the BPCIA, it too must take a position with respect to each relevant patent.[69] Just as under the Hatch–Waxman Act, if the biosimilar applicant challenges a patent by seeking to launch prior to patent expiry, submitting its application constitutes an

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www.fda.gov/downloads/Drugs/DevelopmentApprovalProcess/UCM071436.pdf (listing patents identified by innovators in their applications).

67. 21 U.S.C. § 355 (j)(2)(B)(i).

68. *See* FDA, GUIDANCE FOR INDUSTRY, ANDA SUBMISSIONS — REFUSE-TO-RECEIVE STANDARDS 2 (2016), *available at* https://www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm370352.pdf.

69. 42 U.S.C. § 262 (l)(3)(B) (2012).

act of infringement.[70] But the artificial act of infringement is tied to the patents identified through that information exchange process.[71] As a result, if the biosimilar applicant *fails* to comply with the information exchange process — which FDA does not enforce — the disability enacted by the Hatch–Waxman Act remains in place. Section 271(e)(2)(C)(ii) simply removes the disability, allowing a biologic drug innovator to establish an artificial act of infringement in the event that it learns that an infringing application has been filed. Failure to remove the disability with an artificial act of infringement would effectively penalize the biologic drug innovator for the biosimilar applicant's failure to comply with the process laid out in § 351(l). The Federal Circuit misunderstood the fundamental purpose of § 271(e)(2)(C)(ii) when it concluded that Congress intended to excuse biosimilar applicants from compliance with those provisions.[72]

III. CROSS-RESPONDENT IS ATTEMPTING TO SECURE FROM THE COURTS AN OUTCOME THAT IT WAS UNABLE TO OBTAIN FROM CONGRESS

A. The development of the BPCIA provided stakeholders with ample opportunity to shape the patent provisions of the legislation

By any reasonable measure, the process culminating in enactment of the BPCIA in 2010 provided a robust

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70. 35 U.S.C. § 271 (e)(2)(C)(i) (2012).

71. *Id.*

72. *See Amgen Inc. v. Sandoz Inc.*, 794 F.3d 1347, 1355 (Fed. Cir. 2015).

and participatory framework for stakeholders to provide input. The statute was enacted after nearly a decade of stakeholder discussions — within the industries, before FDA, in dockets at the agency, in scientific and legal journals, in legislative hearings, and on Capitol Hill more generally — about every key scientific, legal, and policy issue that needed to be addressed, as researched and published by an author of this *amici* brief.[73] Every provision of the final legislation was publicly vetted for several years.[74] The process afforded biosimilar manufacturers, including Cross–Respondent Sandoz and its parent company Novartis,[75] many opportunities over many years to address the scope, contours, and design of the patent information exchange and litigation provisions.[76]

Stakeholders repeatedly addressed whether and how patent disputes should be resolved prior to biosimilar market entry. For example, witnesses at Congressional hearings in 2007 discussed three different approaches: one witness supported voluntary premarket patent litigation, another recommended that biosimilars not be approved until all patent issues were resolved, and another recommended that patent issues be removed

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73. *See generally* Krista Hessler Carver, Jeffrey Elikan & Erika Lietzan, *An Unofficial Legislative History of the Biologics Price Competition and Innovation Act of 2009*, 65 FOOD & DRUG L.J. 671–818 (2010).

74. *Id.*

75. *See, e.g., The Sandoz Brand*, SANDOZ.COM https://www.sandoz.com/about-us/who-we-are/sandoz-brand (last visited March 14, 2017) ("Sandoz is a division of the Novartis Group and a global leader in generic pharmaceuticals and biosimilars.").

76. *See, e.g.*, Carver, *supra* note 73, at 671–818.

from the legislation altogether.[77] In early 2008, the House Subcommittee on Health solicited the written views of 35 organizations on a variety of questions relating to possible biosimilar legislation specifically in order to "understand more fully the range of perspectives, concerns, and objectives that might be addressed" in a legislative proposal.[78] The solicitation included a series of questions relating to patent protection, patent infringement, and the procedures that should be included to allow patent owners to identify potential patent infringement claims and ensure timely resolution of those disputes.[79] The advisability and design of patent dispute resolution provisions were addressed again in hearings in 2008 and 2009.[80] The final language of the patent provisions reflected years of such discussions.

B. Novartis, the parent company of Cross-Respondent Sandoz, provided input during these years and consistently took the position that patent litigation should be decoupled from the biosimilar regulatory pathway

Throughout the lengthy legislative information-gathering process, Novartis/Sandoz consistently opposed any legislation that combined the biosimilar regulatory pathway with patent resolution processes. For example, in a 2007 Senate hearing on biosimilars, Ajaz

77. *Id.* at 736–737.

78. Letter from Frank Pallone, Jr., Chairman, & Nathan Deal, Ranking Member, Subcomm. on Health, Comm. on Energy & Commerce, U.S. House of Reps., to 35 groups (Apr. 3, 2008).

79. *Id.* at 6.

80. Carver, *supra* note 73, at 789, 798–802.

S. Hussain, Ph.D., Vice President and Global Head of Biopharmaceutical Development at Novartis, testified that patent litigation should be kept completely separate from the biosimilar regulatory process.[81] In fact, Dr. Hussain opined that such "decoupling" was "essential" to provide biosimilar drugs to patients in a timely manner. Instead of the mutual information exchange now present in the language of the BPCIA, Dr. Hussain called for a "non–patent research incentive" or other types of proceedings to help resolve biologic drug patent rights.[82]

The following year, in response to the House Subcommittee on Health leadership's letter requesting input from stakeholders, then–President and Chief Executive Officer, Paulo Costa made clear Novartis opposed provisions regarding premarket information disclosure and patent resolution processes.[83] Mr. Costa argued that, instead of a mutual disclosure of information, patent owners should be able to enforce their patents only after launch of the biosimilar drug.[84]

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81. *See Follow-On Biologics: Hearing on Examining Food and Drug Administration Follow-On Biologics, Generally Referred to As a Biotechnology Derived Protein Drug (Or Biologic) That is Comparable to a Novel, Previously Approved Biologic and That is Approved With less Supporting Data Than the Innovator Biologic Before the Comm. On Health, Ed., Labor, and Pensions*, 110 Cong. 36 (2007).

82. *Id.*

83. Letter from Paulo Costa, CEO, Novartis Corp., to Frank Pallone, Jr. and Nathan Deal, H. Subcomm. On Health, 29 (May 1, 2008).

84. *Id.*

Later in 2008, responding to a request for comment from the Federal Trade Commission (FTC), incoming President and Chief Executive Officer Robert Pelzer[85] echoed Novartis' corporate refrain, stating "[T]here is absolutely no need, and indeed there would be serious downsides, to coupling FDA's regulatory review of FOBs ["Follow-On Biologics"] to the exercise of patent rights."[86] Mr. Pelzer recommended a statutory notification process between the biosimilar applicant and the biologic drug innovator, but only to the extent it might provide an "orderly" entry into "traditional patent remedies in court."[87]

Amici submit that Novartis' position was a contrarian one, even for a generics company. For example, during a workshop organized by the FTC, William Schultz, who represented the generic industry throughout the legislative process, stated that the goal should be to develop a system so that "the first day that the biosimilar, the biogeneric, is ready to be approved, all issues regarding patents that have been identified that would preclude it

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85. Mr. Pelzer assumed the role of President and CEO of Novartis in September 2008. *See* Robert E. Pelzer, Executive Profile, BLOOMBERG, http://www.bloomberg.com/research/stocks/private/person.asp?personId=8320773&privcapId=34924763 (last visited March 14, 2017).

86. Letter from Robert Pelzer, CEO Novartis, to the Federal Trade Commission, at 19 (Sept. 29, 2008), *available at* https://www.ftc.gov/sites/default/files/documents/public_comments/emerging-health-care-competition-and-consumer-issues-537778-00009/537778-00009.pdf.

87. *Id.*

from marketing, have been resolved."[88] Meanwhile, at that same meeting, Novartis' Vice–President of IP Strategy Ken Goldman was the "lone dissenter," reiterating his company's view that "pre–approval patent resolution is contrary to the principles of competition."[89]

Based on the public engagement noted above, it is clear that Novartis/Sandoz was afforded (and seized upon) ample opportunities to convey its preferred approach to a regulatory pathway for biosimilar drugs. Nevertheless, as described below, after fairly considering the Novartis/Sandoz approach of decoupling biosimilar approval from the resolution of patent infringement issues, Congress rejected this approach when enacting the BPCIA.

C. Congress knowingly rejected the approach preferred by Novartis/Sandoz

Between the fall of 2006, when Representative Waxman introduced the first biosimilar bill, and March of 2010, when President Obama signed the BPCIA into law, Congress considered at least eight distinct bills and several further amendments directed to biosimilar drugs.[90] These proposals took varying approaches to the

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88. Cathy Dombrowski, *Follow–On Biologic Stakeholders Agree On Patent Resolution, Differ On Details*, THE PINK SHEET (Dec. 8, 2008), https://pink.pharmamedtechbi.com/PS050412/FollowOn-Biologic-Stakeholders-Agree-On-Patent-Resolution-Differ-On-Details.

89. *Id.*

90. *See generally* Carver, *supra* note 73, at 716–806; *see, e.g.*, Access to Life-Saving Medicine Act H.R. 1038, 110th Cong. (2007); Patient Protection and Innovative Biologic Medicines Act of 2007, H.R. 1956, 110th Cong. (2007); Affordable Biologics for Consumers

questions of whether and how patent infringement issues might be handled prior to biosimilar market entry. For example, the earliest bill in August 2006 — introduced by Representative Waxman — left it to the discretion of the biosimilar applicant whether to pursue resolution of patent issues prior to market launch.[91] A biosimilar applicant could not have been compelled, "by court order or otherwise," to begin the patent resolution process described in the bill.[92]

Later, new approaches were offered. One such approach, a bill introduced by Rep. Inslee, omitted patent litigation provisions altogether.[93] Another bill, introduced by Senator Gregg, set out a mandatory premarket litigation clearance process that involved FDA directly.[94] The agency would have published a Notice in the Federal Register that a biosimilar application had been filed. The biologic drug innovator would have been entitled to request information directly from the biosimilar applicant in order to determine whether its patents had been infringed. If the biologic drug innovator concluded that any of its patents would be infringed, the biosimilar applicant would be required to decide whether to challenge this conclusion (which would constitute an artificial act of infringement) or wait for patent expiry before launching its biosimilar copy of the patented biologic drug.

Act, S. 1505, 110th Cong. (2007); Biologics Price Competition and Innovation Act of 2007, S. 1695, 110th Cong. (2007); Access to Life-Saving Medicine Act, H.R. 6257, 109th Cong. (2006).

91. H.R. 6257, § 3(a)(2) (proposed PHSA § 351(k)(16)(E)).

92. Carver, *supra* note 73, at 721.

93. H.R. 1956, 110th Cong. (2007).

94. S. 1505, § 2(a)(2) (proposed PHSA § 351(k)(8)).

Ultimately, Congress did not enact either of these approaches. Instead, the legislature adopted the approach developed by a bipartisan group of Senators that utilized substantial stakeholder input and which was introduced in 2007 as Senate Bill 1695.[95] The patent litigation regime in this bill, as described hereinabove in Section II, creates a premarket patent litigation procedure that starts with, and depends upon, mandatory disclosure by the biosimilar applicant within 20 days of FDA's acceptance of its biosimilar application. Novartis/Sandoz had ample opportunity to state its case before Congress and, indeed, forcefully urged a different approach. Novartis/Sandoz failed to convince Congress; *for example*, Representative Inslee's bill — which lacked patent provisions — never found any legislative traction. Representative Waxman's bill, introduced in two successive years, expressly stated that participation in the scheme would be "left entirely to the discretion of the applicant," and this proposal never garnered enough votes for passage.[96]

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95. "[A] variety of approaches to key issues were drafted, considered repeatedly, and in the end not adopted. This fact must influence interpretation of the final enacted provisions." Carver, *supra* note 73, at 816.

96. H.R. 6257 § 3(a)(2) (proposed PHSA § 351(k)(16)(E)); H.R. 1038 § 3(a)(2) (proposed PHSA § 351(k)(16)(E)).

D. Novartis/Sandoz is attempting to achieve before the courts what it could not achieve before Congress

When the BPCIA was enacted as part of the Affordable Care Act in 2010, many generic companies applauded; Sandoz did not.[97] Instead, its CEO Jeffrey George complained that the BPCIA was "unfair to generic companies [who] would be required to hand over our dossiers to our competitors years before the product comes to market" and questioned whether Sandoz would even consider using the newly created pathway to bring their follow–on biologic drugs to market.[98]

Comments like those made by its executives, demonstrate that Novartis/Sandoz fully understands that the BPCIA requires mutual information disclosure, and that the company is taking advantage of the abbreviated biosimilar pathway while ignoring the disclosure provisions that it well understands are mandatory — in short, acting as if Congress had in fact adopted the company's long–advocated position. *Amici* submit that Cross–Respondent is engaging this Court in an attempt to undermine the legislative process.

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97. *Sandoz Will Steer Clear Of U.S. Biosimilars Pathway, Use Other Applications* 2/6 THE PINK SHEET (May 3, 2010), https://pink.pharmamedtechbi.com/PS052193/Sandoz-Will-Steer-Clear-Of-US-Biosimilars-Pathway-Use-Other-Applications.

98. *Id.* at 3/6 (emphasis added) ("It's not clear that companies like Sandoz and the leading generic companies in the world would use this pathway to go to market.")

Congress heard from Sandoz/Novartis and others who preferred to separate biosimilar approval from biologic drug patent litigation or give biosimilar companies the option whether to participate. Instead, as Novartis/Sandoz is well aware, Congress enacted a mandatory information exchange process and created an artificial act of infringement, allowing biologic drug innovators a meaningful opportunity to enforce their patents prior to market entry of infringing biosimilar drugs. Ultimately, the biosimilars pathway policy was entrusted to, and decided by, the legislature; the courts must take the resulting statute as enacted.[99] Novartis/Sandoz should take its case back to Congress rather than asking this Court for relief that the company failed to secure from the legislature.[100]

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99. *Marbury v. Madison*, 5 U.S. 137, 177 (1803) ("province and duty ... to say what the law is").

100. *Cf. Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc.*, 467 U.S. 837, 864 (1984) (noting that respondents were improperly "waging in a judicial forum a specific policy battle which they ultimately lost in the agency" and that such policy arguments are more properly addressed to legislators).

CONCLUSION

Amici respectfully request that this Court reverse and remand this matter to the Federal Circuit.

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